

IN THE SPECIFICATION:

On Page 1, please amend the third paragraph as follows:

In some approaches, the indirect interconnection between the signal cable and ultrasound transducer array is established by a transitional device, e.g. a flexible printed circuit or printed circuit board}. See e.g. U.S. Patent Nos. 6,100,626. Such transitional devices not only add expense and complexity, but also limit the maneuverability and reliability of the ultrasound probes.

On Page 8, please amend the second paragraph as follows:

More particularly, and as shown in Fig. 1, distal end portions of each of the signal lines 22 may be separately embedded within and continuously extend into and through the support member 40 from a rearward-facing side to the forward-facing side thereof. To accommodate signal lines 22, a plurality of openings may be defined through the support member 40 in corresponding spaced relation to the spacing between, or pitch of, the signal lines 22 of signal cables 20. The signal lines 22 may each include an outer insulating layer 22a that has been removed from an embedded distal end portion of an electrically conductive wire 22b.

On Page 9, please amend the second paragraph as follows:

The ultrasound transducer array 30 may comprise a piezoelectric layer 32 interconnected (e.g. bonded) to support member 40. In one arrangement, the piezoelectric layer 32 may comprise a ceramic-based material such as PZT (i.e. lead zirconate titanate). Optionally, an electrically conductive signal layer 46 may be interconnected (e.g. bonded) to a forward-facing side of support member 40. In one arrangement, conductive signal layer 46 may be defined by gold-plating. Further, an electrically conductive signal layer 34 may be optionally disposed (e.g. sputter deposited) on a rearward-facing side of piezoelectric layer 32 and interconnected (e.g. bonded) to a forward facing side of support member 40 or conductive signal layer 4246 if provided.

On Page 10, please amend the second paragraph as follows:

As shown, electrically conductive ground layer 36 and piezoelectric layer 32, as well as the optional layers 38, 34 and 4246 if provided, may each comprise an aligned, common plurality of separated portions that define a one-dimensional array or row, of transducer elements of ultrasound

transducer array 30. Correspondingly, a shallow-depth of the forward-facing side of support member 40, may comprise a corresponding, aligned plurality of same-sized, separated portions. The various separated portions noted above may be separately or contemporaneously defined. For example, in one approach, the ultrasound transducer array 30, forward-facing side of support member 40, and various electrically conductive layers interconnected thereto may be cut, or diced, contemporaneously. In turn, an electrically non-conductive material 60 (e.g. a room-temperature-vulcanizing (RTV) rubber) may be provided (e.g. via vacuum impregnation) into the cut-out regions to electrically isolate and physically adjoin the separated portions.

On Page 12, please amend the second paragraph as follows:

To isolate the optional electrically conductive signal layers 3646 and 2434 from the electrically conductive ground layer 36, isolation channels 50 that extend across the width of either or both of the support member 40 and piezoelectric layer 32 may be provided. As shown, the isolation channels 50 may be combinatively defined by aligned channels (e.g. cut-out grooves) that extend across the width of both the support member 40 and piezoelectric layer 32, and that are of a depth that exceeds the thickness of optional conductive signal layers 42 and 34, respectively.

On Page 13, please amend the second paragraph as follows:

Distal end portions of each of the signal lines 122 may be separately embedded within and, as shown in Fig. 2, may continuously extend into and through the support member 140 from a rearward facing side to the forward-facing side thereof. The signal lines 122 may each include an outer insulating layer 122a that has been removed from an embedded distal end portion of an electrically conductive wire 122b.

On Page 16, please amend the first paragraph as follows:

Further, in this regard, the electrically conductive-backed sheet 136 may be electrically connected to a ground conductor comprising a separate cable 170 (shown in phantom lines). For isolation purposes, isolation channels 150 may be provided (not shown). The cable member 170 may be of flexible construction and interconnected (e.g. bonded or soldered) to rear-facing side of

support member 140. In turn, the cable ground member 170 runs the entire length of signal cables 120.

On Page 16, please amend the third paragraph as follows:

Figs. 3 and 4 illustrate an additional embodiment of an ultrasound probe 200 that is quite similar to the ultrasound probe 10 illustrated in Fig. 1. The ultrasound probe 200 comprises a plurality of signal cables 120~~220~~ whose distal ends are connected in an offset, stacked fashion to a one-dimensional ultrasound transducer array 230 to define a “side-looking” arrangement. In this regard, the ultrasound probe 200 includes a support member 240 for supportably receiving the distal ends of a plurality of signal lines 222 comprising each of the signal cables 220 and for supporting the ultrasound transducer array 230 on a top side thereof.

On Page 16, please amend the fourth paragraph as follows:

The distal end portions of signal lines 222 may be embedded within and, as shown in Fig. 4, may continuously extend into and through the support member 240. Again, a plurality of openings may be defined through the support member 240 in corresponding spaced relation to the spacing between, or pitch of, the signal lines 222 of signal cables 220. The signal lines 222 may each include an outer insulating layer 222a that has been removed from an embedded distal end portion of an electrically conductive wire 222b. Again, the support member 240 may be defined by adjoined first and second support members 242 and 244 respectively, and the first support member 242 and/or second support member 244 may be provided with parallel channels (e.g. cut-out) for receiving the distal ends of signal lines 222 therethrough. As shown, portions of signal cables 220 adjacent to the distal end portions thereof may be twisted 90° and bent, or folded, to an orthogonal orientation relative to the distal end portions. In order to maintain such positioning, outer support members 248 may be interconnected to support member 240 and an epoxy-based material 249 may be disposed between the outer support members 248 and in bonded engagement with the signal cables 220.